

California Regional Water Quality Control Board
North Coast Region

NOTIFICATION, MONITORING, AND REPORTING PROGRAM NO. R1-2002-0030

FOR

CALPINE CORPORATION
FOURMILE HILL GEOTHERMAL EXPLORATION DRILLING PROJECT
GLASS MOUNTAIN KNOWN GEOTHERMAL RESOURCE AREA
AND
U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE
AND
U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT

Siskiyou County

NOTIFICATION

PRIOR TO CONSTRUCTION

The discharger shall submit a notice, in writing, to the Regional Water Board at least seven days prior to any construction associated with drilling site preparation, well drilling, and road construction. The notice shall include:

1. Proposed construction dates
2. Location of the facilities
3. Description of the facilities
4. Method of construction
5. Proposed location of ultimate disposal of drilling muds

CERTIFICATION PRIOR TO DISCHARGE

The discharger shall submit a written certification to the Regional Water Board after construction or reconstruction of a drilling waste disposal sump and prior to any discharge. The certification shall include the following information:

1. Permeability of the drilling waste disposal sump liner
2. Thickness of the drilling waste disposal sump liner

PROGRESS REPORTS

The discharger shall notify the Regional Water Board, in writing, no later than five days after the following events:

1. First waste discharge to a drilling waste disposal sump
2. Completion of each well drilled within the lease area

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3. Completion of waste discharge to a drilling waste disposal sump
4. Completion of drilling waste disposal sump closing activities

WASTE TRANSFERS

The discharger shall record all transfers of waste from drilling waste disposal sumps. The record shall include the type and amount of waste removed and the location of the new disposal site. This information shall be submitted to the Regional Water Board monthly, by the first day of the second month following the monitoring period.

CIRCULATION LOSS

The discharger shall immediately notify the Regional Water Board of any circulation loss during the construction of a well at depths less than 1300 feet. The notice shall include:

1. Location of the well,
2. Well depth at the circulation loss,
3. Amount of drilling mud lost, and Method of correction.

MONITORING

During well drilling operations, at each circulation loss event, representative samples of the drilling mud mixture being used during circulation loss shall be obtained. Drilling mud samples shall be analyzed for Total Metals and pH.

Upon completion of well drilling and testing operations and prior to abandonment of each site, representative samples residual liquid wastes (geothermal fluids) and/or solids shall be obtained from each containment sump. The residue shall be analyzed for the constituents listed below as well as other constituents typically found in geothermal wastes, using composite samples, to demonstrate that the wastes are not designated or hazardous and is compatible with on-site disposal as described in Findings No. 6 and 7.

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>
pH	pH units	composite
Specific Conductivity	microhms	composite
Total Suspended Solids	mg/L	composite
Ammonia	mg/L	composite
Chlorides	mg/L	composite
Nitrate	mg/l	composite
Nitrite	mg/L	composite
Antimony	mg/L	composite
Arsenic	mg/L	composite
Beryllium	mg/L	composite
Boron	mg/L	composite
Cadmium	mg/L	composite

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Cobalt	mg/L	composite
Copper	mg/L	composite
Chromium	mg/l	composite
Mercury	mg/l	composite
Iron	mg/L	composite
Lead	mg/L	composite
Molybdenum	mg/L	composite
Nickel	mg/L	composite
Selenium	mg/L	composite
Silver	mg/L	composite
Sulfate	mg/L	composite
Sulfite	mg/L	composite
Thallium	mg/L	composite
Vanadium	mg/L	composite

REPORTING

In reporting the monitoring data, the discharger shall arrange the data in tabular form so that the date, constituents, and concentrations are readily discernible. The monitoring and any necessary narrative reports shall be transmitted in accordance with specifications of Resolution No. 71-5 adopted by the Regional Water Board on February 3, 1971.

Monitoring reports shall be submitted to the Regional Water Board such that they are received by the first day of the second month following the monitoring period.

Ordered by _____
Susan A. Warner
Executive Officer

June 27, 2002

MAV:js/CalpineM&R